

CLAIMS

What is claimed is:

- 1 1. A fiber-optic connector that is configured to couple a first optical fiber to a second optical
 2 fiber, the fiber-optic connector comprising:
 3 a socket having a tunnel extending through a portion of the socket, the tunnel having a
 4 first opening through a first socket surface and a second opening through a
 5 second socket surface, the first surface opposing the second surface;
 6 a first plug having a first prong that is configured to support a portion of a first optical
 7 fiber, and to be inserted with the portion of the first optical fiber into the first
 8 opening; and
 9 a second plug having a second prong that is configured to support a portion of a second
 10 optical fiber, and to be inserted with the portion of the second optical fiber into
 11 the second opening.
 12

- 1 2. The connector of claim 1, wherein the first plug has a tunnel extending therethrough for
 2 receiving a portion of the first optical fiber.

- 1 3. The connector of claim 1, wherein the second plug has a tunnel extending therethrough for
 2 receiving a portion of the second optical fiber.

- 1 4. The connector of claim 1, wherein the first plug and the second plug each comprise prongs
 2 that are configured to be inserted into respective openings in the socket.

- 1 5. The connector of claim 4, wherein each of the prongs has a support surface that is configured
 2 to support a portion of an optical fiber.

- 1 6. The connector of claim 1, wherein the connector is further configured such that inserting the
 2 second prong into the second opening and inserting the first prong into the first opening causes
 3 the second optical fiber to be in contact with the first optical fiber.

1 7. The connector of claim 1, wherein the socket comprises a first arm that is configured to
2 maintain the first plug engaged with the socket, and a second arm that is configured to maintain
3 the second plug engaged with the socket.

1 8. The connector of claim 7, wherein the first arm and the second arm each comprise a catch
2 that is configured to fit within a respective indentation in the socket when the first plug and the
3 second plug are engaged with the socket.

1 9. The connector of claim 7, wherein the connector is configured such that, as the first prong is
2 being inserted into the first opening of the tunnel, a surface of the of the tunnel presses against a
3 surface of the first prong and causes the first prong to press a portion of the first fiber into a V-
4 shaped groove that defines a portion of the tunnel.

1 10. The connector of claim 9, wherein the connector is configured such that, as the second
2 prong is being inserted into the second opening of the tunnel, a surface of the of the tunnel
3 presses against a surface of the second prong and causes the second prong to press a portion of
4 the second fiber into a V-shaped groove that defines a portion of the tunnel.

1 11. A method for coupling a first optical fiber to a second optical fiber, comprising:
2 inserting a first optical fiber and a first prong that is supporting the first optical fiber into
3 a first opening for a tunnel extending through a portion of a socket; and
4 inserting a second optical fiber and a second prong that is supporting the second optical
5 fiber into a second opening for the tunnel, the first opening and the second
6 opening being at opposing ends of the tunnel.

1 12. The method of claim 11, wherein the first prong is part of a first plug that has a tunnel
2 extending therethrough for receiving a portion of the first optical fiber, and the second prong is
3 part of a second plug that has a tunnel extending therethrough for receiving a portion of the
4 second optical fiber.

1 13. The method of claim 11, wherein the first plug and the second plug each comprise prongs
2 that are configured to be inserted into respective openings in the socket, and each of the prongs
3 has a support surface that is configured to support a portion of an optical fiber.

1 14. The method of claim 11, wherein inserting the second prong into the second opening and
2 inserting the first prong into the first opening causes the second optical fiber to be optically
3 coupled to the first optical fiber.

1 15. An optical fiber connector comprising:
2 a bottom portion having a groove;
3 a top portion; and
4 a first wedge and a second wedge that are configured to fit at least partially between the
5 top portion and the bottom portion while the top portion is attached to the bottom
6 portion;
7 wherein the first wedge is configured to press a first optical fiber into the groove when
8 the first wedge is activated by being slid toward the second wedge; and
9 wherein the second wedge is configured to press a second optical fiber into the groove
10 when the second wedge is activated by being slid toward the first wedge.

1 16. The optical fiber connector of claim 15, wherein the connector is configured such that when
2 the first wedge and the second wedge are activated, the first optical fiber and the second optical
3 fiber are optically coupled.

1 17. The optical fiber connector of claim 15, wherein the first wedge is configured to reduce an
2 amount of pressure applied on the first optical fiber by the first wedge when the first wedge is
3 de-activated by being slid away from the second wedge.

1 18. The optical fiber connector of claim 15, wherein the first wedge is configured to enable the
2 first optical fiber to be removed from the optical fiber connector when the first wedge is de-
3 activated by being slid away from the second wedge.

1 19. The optical fiber connector of claim 15, wherein the second wedge is configured to reduce
2 an amount of pressure applied on the second optical fiber when the second wedge is de-activated
3 by being slid away from the first wedge.

1 20. The optical fiber connector of claim 15, wherein the second wedge is configured to enable
2 the second optical fiber to be removed from the optical fiber connector when the second wedge
3 is de-activated by being slid away from the first wedge.

1 21. The optical fiber connector of claim 15, wherein the first wedge is configured to press a first
2 plurality of optical fibers into a plurality of grooves in the bottom portion when the first wedge is
3 activated, and the second wedge is configured to press a second plurality of optical fibers into
4 the plurality of grooves when the second wedge is activated.

1 22. The optical fiber connector of claim 15, wherein the bottom portion has a plurality of larger
2 V-grooves and a plurality of smaller V-grooves, each larger V-groove being wider than each
3 smaller V-groove.

1 23. The optical fiber connector of claim 22, wherein each larger V-grooves is longitudinally
2 aligned with a respective smaller V-groove and with a respective larger V-groove.

1 24. The optical fiber connector of claim 23, wherein the plurality of larger V-grooves are
2 configured to support buffered portions of respective optical fibers.

1 25. The optical fiber connector of claim 24, wherein the plurality of smaller V-grooves are
2 configured to support exposed portions of respective optical fibers.

1 26. The optical fiber connector of claim 15, wherein the first wedge and the second wedge each
2 include a head portion and a body portion.

1 27. The optical fiber connector of claim 26, wherein the body portion has a sloping wedge
2 surface and a bottom wedge surface.

1 28. The optical fiber connector of claim 27, wherein each head portion has an activation surface
2 that can be pressed to activate a corresponding wedge, and a de-activation surface that can be
3 pressed to de-activate the corresponding wedge.

1 29. The optical fiber connector of claim 28, wherein the first wedge and the second wedge are
2 placed between the top portion and the bottom portion before the top portion is attached to the
3 bottom portion.

1 30. The optical fiber connector of claim 29, wherein after the top portion is attached to the
2 bottom portion, each sloping wedge surface faces a sloping bottom surface of the top portion,
3 and each wedge head is accessible via an opening in the top portion.

1 31. The optical fiber connector of claim 30, wherein sliding the first wedge toward the second
2 wedge causes the sloping wedge surface of the first wedge to press against a respective one of
3 the sloping bottom surfaces of the top portion.

1 32. A method for coupling a first optical fiber to a second optical fiber via a connector, the
2 method comprising:
3 sliding a first wedge in a first direction relative to the connector to cause the first optical
4 fiber to be pressed into a groove that is embossed in a portion of the connector;
5 and
6 sliding a second wedge in a second direction that is opposite to the first direction relative
7 to the connector to cause the second optical fiber to be pressed into the groove.

1 33. The method of claim 32, wherein sliding the first wedge in the first direction and sliding the
2 second object in the second direction cause the first optical fiber and the second optical fiber to
3 be optically coupled.

1 34. The method of claim 32, further comprising:
2 sliding the first wedge in the second direction to enable the first optical fiber to be
3 removed from the connector.

1 35. The method of claim 32, further comprising:
2 sliding the second wedge in the first direction to enable the second optical fiber to be
3 removed from the connector.

1 36. The method of claim 32, wherein sliding the first wedge in the first direction causes a first
2 plurality of optical fibers to be pressed into a plurality of grooves that are embossed in a portion
3 of the connector, and sliding the second wedge in the second direction causes a second plurality
4 of optical fibers to be pressed into the plurality of grooves.